WE CLAIM:

Sub B7

1. A blast resistant container assembly for receiving an explosive, said container assembly comprising:

a. a container of blast resistant material, said container being collapsible for storage when empty, and

b. blast mitigating material located within the container.

2. The container assembly of claim 1 wherein the container comprises a plurality of faces, each face being connected to another face at at least one common edge with a fibrous material, said fibrous material functioning as a hinge between said faces.

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3. The container assembly of claim 2 wherein the fibrous material comprises at least one fibrous layer, said fibrous layer comprising at least one network of high strength fibers having a tenacity of at least about 10 g/d and a tensile modulus of at least about 200 g/d.

4. The container assembly of claim 3 wherein at least about 50 weight percent of said fibers are substantially continuous, parallel lengths of fiber substantially perpendicular to said edge.

5. The container assembly of claim 4 wherein the network of fibers is in a resin matrix.

6. The container assembly of claim 4 wherein said blast mitigating material is selected from the group consisting of polymeric foams, particulates, condensable gases, heat sink materials, foamed glass, microballoons, balloons, bladders, hollow spheres, wicking fibers, and combinations thereof.

7. The container assembly of claim 4 wherein said blast mitigating material comprises an aqueous foam.

8. The container assembly of claim 1 wherein said blast mitigating material is selected from the group consisting of polymeric foams, particulates, condensable gases, heat sink materials, foamed glass, microballoons, balloons, bladders, hollow spheres, wicking fibers, and combinations thereof.

9. The container assembly of claim 1 wherein said blast mitigating material comprises an aqueous foam.

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10. The container assembly of claim 1 wherein the container comprises a plurality of bands which are oriented relative to one another when assembled to substantially enclose a volume and to form a container wall, said bands being foldable for storage when disassembled, at least one of said bands comprising blast resistant material.

11. The container assembly of claim 10 wherein said bands are at least three in number and comprise a first inner band nested within a second band which is nested within a third band, said bands forming a container wall having a thickness substantially equivalent to the sum of the thicknesses of at least two of the bands.

12. The container assembly of claim 11 wherein each of said bands is substantially polygonal in cross-section, and wherein at least one of the bands comprises a plurality of substantially rectangular surfaces in series, said surfaces numbering at least one more than the number of sides of the polygon of the cross-section of the band, and wherein said band comprising said surfaces is nested within another said band.

Fig 2

13. The container assembly of claim 11 wherein said first inner band includes a foldable flap on each side thereof.

14. The container assembly of claim 11 wherein each of said first, second, and third bands is a tube having a longitudinal axis, and wherein the longitudinal axes of said first, second, and third bands are substantially perpendicular to one another.

15. The container assembly of claim 11 wherein each of said bands comprises a plurality of faces, each face being connected to another face at at least one common edge with a fibrous material, said fibrous material functioning as a hinge between said faces.

16. The container assembly of claim 15 wherein the fibrous material comprises at least one fibrous layer, said fibrous layer comprising at least one network of high strength fibers having a tenacity of at least about 10 g/d and a tensile modulus of at least about 200 g/d.

17. The container assembly of claim 16 wherein at least about 50 weight percent of said fibers are substantially continuous, parallel lengths of fiber perpendicular to said edge.

18. The container assembly of claim 17 wherein the network of fibers is in a resin matrix.

19. The container assembly of claim 15 wherein the faces of at least one band are rigid.

20. The container assembly of claim 1 wherein the blast resistant material comprises at least one fibrous layer, said fibrous layer comprising at least one network of fibers, at least about 50 weight percent of said fibers being substantially continuous lengths of fiber that encircle the enclosed volume.

21. The container assembly of claim 20 wherein at least about 75 weight percent of said fibers are substantially continuous lengths of fiber that encircle the enclosed volume.

22. The container assembly of claim 20 wherein substantially all of the fibers are continuous lengths of fiber that encircle the enclosed volume.

23. The container assembly of claim 20 wherein the fiber comprises a high strength fiber having a tenacity of at least about 10 g/d and a tensile modulus of at least about 200 g/d.

24. The container assembly of claim 22 wherein said high strength fibers are selected from the group consisting of extended chain polyolefin fibers, aramid fibers, polyvinyl alcohol fibers, polyacrylonitrile fibers, liquid copolyester fibers, polyamide fibers, glass fibers, carbon fibers, and mixtures thereof.

25. The container assembly of claim 23 wherein said fibers are polyolefin fibers.

26. The container assembly of claim 23 wherein said fibers are aramid fibers.

27. The container assembly of claim 23 wherein the network of fibers is in a resin matrix.

28. The container assembly of claim 27 wherein said blast mitigating material is selected from the group consisting of polymeric foams, particulates,

condensable gases, heat sink materials, foamed glass, microballoons, balloons, bladders, hollow spheres, wicking fibers, and combinations thereof.

29. The container assembly of claim 27 wherein said blast mitigating material comprises an aqueous foam.

30. The container assembly of claim 23 wherein said blast mitigating material is selected from the group consisting of polymeric foams, particulates, condensable gases, heat sink materials, foamed glass, microballoons, balloons, bladders, hollow spheres, wicking fibers, and combinations thereof.

31. The container assembly of claim 23 wherein said blast mitigating material comprises an aqueous foam.

32. A blast resistant container assembly for receiving an explosive, said container assembly comprising:

a. at least three seamless bands of a blast resistant material comprising high strength fibers having a tenacity of at least about 10 g/d and a tensile modulus of at least about 200 g/d, said bands being nested one within the other when assembled with their longitudinal axes at right angles to one another to substantially enclose a volume and to form a container wall having a thickness substantially equivalent to the sum of the thicknesses of at least two of the bands, said bands being collapsible for storage when disassembled; and

b. an aqueous foam located within the inner band and having a density in the range of from about 0.01 to about 0.10 g/cm^3.

33. A blast resistant container assembly for receiving an explosive, said container assembly comprising:

a. at least three bands of material, a first inner band being nested within a second band which is nested within a third band, said bands being oriented relative to one another to substantially enclose a volume and to form a container wall having a thickness substantially equivalent to the sum of the thicknesses of at least two of the bands; and

b. blast mitigating material located within the inner band.

34. The container assembly of claim 33 wherein each of said first, second, and third bands is a tube having a longitudinal axis, and wherein the

longitudinal axes of said first, second, and third bands are substantially perpendicular to one another.

35. The container assembly of claim 33 wherein at ~~least~~ one of the bands comprises at least one fibrous layer, said fibrous layer comprising at least one network of fibers, at least about 50 weight percent of said fibers being substantially continuous lengths of fiber that encircle the enclosed volume.

36. The container assembly of claim 35 wherein at least about 75 weight percent of said fibers are substantially continuous lengths of fiber that encircle the enclosed volume.

37. The container assembly of claim 35 wherein substantially all of the fibers are continuous lengths of fiber that encircle the enclosed volume.

38. The container assembly of claim 35 wherein the fiber comprises a high strength fiber having a tenacity of at least about 10 g/d and a tensile modulus of at least about 200 g/d.

39. The container assembly of claim 38 wherein said high strength fibers are selected from the group consisting of extended chain polyolefin fibers, aramid fibers, polyvinyl alcohol fibers, polyacrylonitrile fibers, liquid copolyester fibers, polyamide fibers, glass fibers, carbon fibers, and mixtures thereof.

40. The container assembly of claim 38 wherein said fibers are polyolefin fibers.

41. The container assembly of claim 38 wherein said fibers are aramid fibers.

42. The container assembly of claim 38 wherein the network of fibers is in a resin matrix.

43. The container assembly of claim 42 wherein said blast mitigating material is selected from the group consisting of polymeric foams, particulates, condensable gases, heat sink materials, foamed glass, microballoons, balloons, bladders, hollow spheres, wicking fibers, and combinations thereof.

44. The container assembly of claim 42 wherein said blast mitigating material comprises an aqueous foam.

45. The container assembly of claim 33 wherein said blast mitigating material is selected from the group consisting of polymeric foams, particulates, condensable gases, heat sink materials, foamed glass, microballoons, balloons, bladders, hollow spheres, wicking fibers, and combinations thereof.

46. The container assembly of claim 33 wherein said blast mitigating material comprises an aqueous foam.

Sub B3 47. A blast directing container assembly for receiving an explosive, said container assembly comprising:

a. at least one closed band of blast resistant material, said band having two open sides, said material comprising a network of high strength fibers, at least about 50 weight percent of said fibers comprising continuous lengths in the direction of the band; and

b. blast mitigating material located within the band.

48. The container assembly of claim 47 further comprising at least one additional band coaxial with the first band and within which the first band is nested.

49. The container assembly of claim 48 wherein the nested bands together form a rigid tube.

50. The container assembly of claim 49 wherein each of the bands is collapsible for storage when disassembled and empty.

51. The container assembly of claim 47 wherein the band is collapsible for storage when empty.

52. The container assembly of claim 47 wherein said blast mitigating material is selected from the group consisting of polymeric foams, particulates, condensable gases, heat sink materials, foamed glass, microballoons, balloons, bladders, hollow spheres, wicking fibers, and combinations thereof.

53. The container assembly of claim 47 wherein said blast mitigating material comprises an aqueous foam.

Fig 7 or 8 — 54. A blast resistant container assembly for receiving an explosive, said container assembly comprising:

a. a container having an access opening;

b. blast mitigating material located within the container; and

c. at least one band of a blast resistant material, said band sliding over said container in a first direction to encircle the container and at least partially cover said access opening and in a second direction to at least partially expose said access opening.

—55. The container assembly of claim 54 wherein at least about 50 percent of the surface area of said access opening is covered.

—56. The container assembly of claim 54 wherein at least about 80 percent of the surface area of said access opening is covered.

—57. The container assembly of claim 54 wherein substantially all of the surface area of said access opening is covered.

—58. The container assembly of claim 54 wherein said container further includes a door for said access opening, said band at least partially covering said door when said door is closed over said access opening.

—59. The container assembly of claim 58 wherein at least about 20 percent of the surface area of said door is covered.

—60. The container assembly of claim 58 wherein at least about 40 percent of the surface area of said door is covered.

—61. The container assembly of claim 58 wherein at least about 60 percent of the surface area of said door is covered.

—62. The container assembly of claim 54 wherein the band material comprises at least one fibrous layer, said fibrous layer comprising at least one network of fibers, said fibers comprising a high strength fiber having a tenacity of at least about 10 g/d and a tensile modulus of at least about 200 g/d.

—63. The container assembly of claim 62 wherein the network of fibers is in a resin matrix.

—64. The container assembly of claim 63 wherein said band is collapsible for storage when empty.

— 65. The container assembly of claim 54 wherein said blast mitigating material is selected from the group consisting of polymeric foams, particulates, condensable gases, heat sink materials, foamed glass, microballoons, balloons, bladders, hollow spheres, wicking fibers, and combinations thereof.

66. The container assembly of claim 54 wherein said blast mitigating material comprises an aqueous foam.